

an outer circumferential cutting surface having a width, said surface including an abrasive grit attached thereto, and having a circumferential groove therein for forming an edge contour onto an optical lens;

a radially extending planar side portion; and

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imply
a plurality of swarf clearing grooves extending across the entire width of said outer circumferential cutting surface, at an angle of from about 35 to about 45 degrees to said planar side portion and opening into said planar side for removal of swarf out through said planar side.

REMARKS

Claims 1-20 are pending in this application. Of these claims, 1, 10 and 17 are independent claims.

Claims 1, 10, and 17 have been amended. Support for these amendments can be found throughout the specification and drawings as originally filed.

Reconsideration and reexamination of this application in light of the above amendments and the following remarks is respectfully requested.

REJECTION UNDER 35 U.S.C. §102(b)

Claims 1-7, 10-14 and 17 stand rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 3,711,999 to Held.

The Applicant respectfully traverses the 35 U.S.C. §102(b) rejection of claims 1-7, 10-14 and 17.

The law is clear that anticipation requires that a single prior art reference disclose each and every limitation of the claim sought to be rejected. 35 U.S.C. 102(b).

The law is also clear that a claim in dependent form shall be construed to incorporate all the limitations of the claim to which it refers. 35 U.S.C. § 112 ¶ 4.

The Examiner has asserted that Held discloses a rotary wheel comprising: a hub portion (not numbered but shown in figure 1), a cutting surface (16), a planar side portion (18), a swarf-clearing groove (12f), and a circumferential groove (22).

Conversely, independent claims 1, 10 and 17 recite, among other things, a rotary edging wheel for edge finishing of an optical lens including ***at least one swarf clearing groove extending at an angle across the entire width of the outer circumferential cutting surface and opening into the radially extending planar side for removal of swarf out through the planar side.*** Held does not disclose such structure and function. In fact, Held only teaches that the so-called notch (12f) is for cooling purposes, and is completely silent regarding swarf removal.

In view of the foregoing, the Applicant respectfully submits that independent claims 1, 10 and 17 define over the art cited by the Examiner and respectfully requests withdrawal of the rejection. Likewise, claims 2-7 and 11-14, which depend from independent claims 1 and 10, further define the invention and define over the art cited by the Examiner. Thus, the Applicant respectfully requests withdrawal of the rejection.

Furthermore, the Applicant submits that U.S. Patent No. 3,711,999 to Held does not render claims 1-7, 10-14 and 17 obvious.

The standard for obviousness is that there must be some suggestion, either in the reference or in the relevant art, of how to modify what is disclosed to arrive at the claimed invention. In addition, "[s]omething in the prior art as a whole must suggest the desirability and, thus, the obviousness, of making" the modification to the art suggested by the Examiner. *Uniroyal, Inc. v. Rudkin-Wiley Corp.*, 837 F.2d 1044, 1051, 5

U.S.P.Q.2d (BNA) 1434, 1438 (Fed. Cir.), cert. denied, 488 U.S. 825 (1988). Although the Examiner may suggest the teachings of a primary reference could be modified to arrive at the claimed subject matter, the modification is not obvious unless the prior art also suggests the desirability of such modification. *In re Laskowski*, 871 F.2d 115, 117, 10 U.S.P.Q.2d (BNA) 1397, 1398 (Fed. Cir.1989). There must be a teaching in the prior art for the proposed combination or modification to be proper. *In re Newell*, 891 F.2d 899, 13 U.S.P.Q.2d (BNA) 1248 (Fed. Cir. 1989). If the prior art fails to provide this necessary teaching, suggestion, or incentive supporting the Examiner's suggested modification, the rejection based upon this suggested modification is error and must be reversed. *In re Bond*, 910 F.2d 831, 15 U.S.P.Q.2d (BNA) 1566 (Fed. Cir. 1990).

As previously noted, independent claims 1, 10 and 17 recite, among other things, a rotary edging wheel for edge finishing of an optical lens including ***at least one swarf clearing groove extending at an angle across the entire width of the outer circumferential cutting surface and opening into the radially extending planar side for removal of swarf out through the planar side.*** Again, Held does not disclose such structure and function. Reiterating, Held only teaches that the so-called notch (12f) is for cooling purposes, and is completely silent regarding swarf removal.

In fact, Held does not disclose any swarf-clearing grooves in an outer cutting surface of a grinding wheel (regardless of their structure and/or orientation) and especially swarf-clearing grooves that extend along the entire width of the side surfaces of the grinding wheel. The notches disclosed by Held are merely for air-cooling purposes and not for material removal purposes. Thus, if one of ordinary skill in the art were attempting to form a swarf groove in a grinding wheel or tool, they most certainly would not look to Held for any guidance.

REJECTION UNDER 35 U.S.C. §103

Claims 8, 9, 15, 16, and 18-20 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 3,711,999 to Held.

The Applicant respectfully traverses the 35 U.S.C. §103(a) rejection of claims 8, 9, 15, 16, and 18-20.

The Examiner correctly noted that Held does not disclose the specific attachment means, size, and hardness of the abrasive grit.

More importantly though, and as previously noted, Held does not disclose any swarf-clearing grooves in an outer cutting surface of a grinding wheel, and especially swarf-clearing grooves that extend along the entire width of the side surfaces of the grinding wheel. The notches disclosed by Held are merely for air-cooling purposes and not for material removal purposes. Thus, if one of ordinary skill in the art were attempting to form a swarf groove in a grinding wheel or tool, they most certainly would not look to Held for any guidance.

Dependent claims 8, 9, 15, 16, and 18-20 depend from independent claims 1, 10 and 17, respectively. As set forth above, Held does not teach, suggest or render obvious the swarf clearing grooves of the present invention. Thus, these claims dependent therefrom are not rendered obvious when viewed in combination with these independent claims.

In view of the foregoing, the Applicant respectfully submits that independent claims 1, 10 and 17 define over the art cited by the Examiner and respectfully requests withdrawal of the rejection. Likewise, claims 8, 9, 15, 16, and 18-20, which depend from

independent claims 1, 10 and 17, further define the invention and define over the cited art. Thus, the Applicant respectfully requests withdrawal of the rejection.

CONCLUSION

In view of the foregoing, the Applicant respectfully requests reconsideration and reexamination of the Application. The Applicant respectfully submits that each item raised by the Examiner in the Office Action of April 26, 2002 has been successfully traversed, overcome or rendered moot by this response. The Applicant respectfully submits that each of the claims in this Application is in condition for allowance and such allowance is earnestly solicited.


The Examiner is invited to telephone the Applicant's undersigned attorney at (248) 364-4300 if any unresolved matters remain.

Please send all future correspondence relating to this application to Warn, Burgess & Hoffmann, P.C., P.O. Box 70098, Rochester Hills, MI 48307.

Respectfully submitted,

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VERSION WITH MARKINGS TO SHOW CHANGES MADE TO THE CLAIMS

The claims have been amended as follows:

Claim 1. (Twice Amended) A rotary edging wheel for edge finishing of an optical lens comprising:

a hub portion adapted for attachment to a rotary power source;

an outer circumferential cutting surface having a width, said surface including an abrasive grit attached thereto;

a radially extending planar side portion; and

at least one swarf clearing groove extending at an angle [at least] across the entire width [a part] of said surface and opening into said planar side for removal of swarf out through said planar side.

Claim 10. (Twice Amended) A rotary edging wheel for edge finishing of an optical lens comprising:

a hub portion adapted for attachment to a rotary power source;

an outer circumferential cutting surface having a width, said surface including an abrasive grit attached thereto, and having a circumferential groove therein for forming an edge contour onto an optical lens;

a radially extending planar side portion; and

a plurality of swarf clearing grooves extending at an angle [at least] across the entire width [a part] of said surface and opening into said planar side for removal of swarf out through said planar side.

Claim 17. (Twice Amended) A rotary bevel edging wheel for edge finishing of an optical lens comprising:

a hub portion adapted for attachment to a rotary power source;

an outer circumferential cutting surface having a width, said surface including an abrasive grit attached thereto, and having a circumferential groove therein for forming an edge contour onto an optical lens;

a radially extending planar side portion; and

a plurality of swarf clearing grooves extending across the entire width of said outer circumferential cutting surface, at an angle of from about 35 to about 45 degrees to said planar side portion and opening into said planar side for removal of swarf out through said planar side.